

**Skellig Michael Co. Kerry- Archaeological Monitoring of Construction of 3 No. Crash
Decks on the Lighthouse Roadway.
(Ministerial Consent No. C0001053; Excavation Licence No. E005336; Detection Device
Licence No. R000560)**

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The OPW received ministerial consent for the construction of three steel crash decks, one on the Lower Lighthouse Road above the men's huts and two on corners of the Upper Lighthouse Roadway in locations prone to rock fall. The Consent required that the works be archaeologically monitored. In the initial plans the upright members of the decks were set in simple foundation holes which would have measured about 500mm square. However, plans were changed and all the uprights were to be linked with below ground steel beams which of course would result in much more disturbance to the original features of the roadway. Ministerial consent was obtained for the altered plans but as much more disturbance was to be undertaken, more archaeological monitoring was required than for the original design.

Before the construction of the crash decks 2 and 3 could begin a number of minor works were required to facilitate transport of materials to the site. These consisted of:

- the covering with plywood sheets of all the exposed yellow Yorkshire sandstone paving slabs before the entrance to and within the lower lighthouse station (figs 1 & 3) in order to protect them from damage by traffic. This will need to be done again next year,

- the covering of the cable channel outside the north entrance of the lower lighthouse station (fig. 4), to protect it from damage by traffic. This will also need to be done again next year,

- The removal of the concrete block bund walls around the former, green plastic diesel tanks in the lower lighthouse station (see separate report). The lower part of the western bunded area consisted of the chamfered plinth of one of the original 1820s stores so it was left in situ and the ground was raised around it with soil and rubble to facilitate transit (fig. 2),

- The widening of the north entrance into the lower lighthouse station (see separate report).

A prohibition on storage of any materials on the cable channel on the roadway was also put into place to avoid damaging the feature.

Crash Deck 1 (figs. 5-8)

In advance of construction the area was planned in detail at a scale of 1:50m, as the surviving original features of the roadway had not been previously surveyed not described.

In the area of Crash Deck 1 the inner edging of the roadway survived only over the western half of the proposed deck. Over the eastern half it had been replaced in the early 20th century by a 100mm wide mass concrete wall which formed the side of the 'pond'. The east end of the pond was also lined with a similar wall. The latter formerly held a 50mm diameter round hole at its centre but this wall was partly demolished in recent times and the hole is no longer visible. This area lies beneath a gully which in times of heavy rain gathers a significant amount of water which cascades down onto the 'pond'. The 'pond' structure has by some

been interpreted as a duck pond however Richard Foran stated that it was built to stop stone washing down into the drain running under the roadway immediately east of the crash deck location the small hole allowed water into the drain. By blocked stone entering it.

Crash Deck 1 was two bays in length. The foundations for the rear beam and the inner ends of the two transverse beams of the western bay cut through and removed the inner edging of the roadway and part of the base of the lateral drain, which was in places paved with flat flags in this area. The stones removed were stockpiled on the east side of 'Tom's Hut'. The depth of all the foundations apart from that for the frontal beam of the eastern bay required the removal of a depth of rock.

The rear beam of the eastern bay was laid too far towards the outer side of the roadway and so did not interfere with the concrete wall of the 'pond'. However, it had to be extended inwards and a slot had to be cut through the wall of the pond and the base of the lateral drain to hold extension beams supporting uprights (fig. 5).

During the excavation of the trench for the front beam a ragged hole was revealed in the inner face of the base of the parapet wall and was repaired by the OPW mason using lime mortar and stone (fig. 6).

The excavated trenches here and in all the crash decks were all lined with polythene before the concrete was poured and special care was taken in this and the other decks to ensure concrete did not enter into joints or holes in the parapet wall.

Parts of the rock higher up above the roadway had also to be removed to facilitate the construction of the substructure for the roof (fig. 7).

Crash Deck 2 (figs. 9 & 10)

The location where Crash Deck 2 was built has been particularly prone to falling rocks due to the compacted glacial moraine rather than bedrock through which the roadway was cut at this point. Rockfalls in the 1950s severed access here and left only the inner 1-1.5m of the roadway intact. The roadway was excavated and the outer wall rebuilt and repaired in this area in recent years. Rockfalls again in the winter/spring of 2021/2022 broke through the wall in one place, knocked the wall out of plumb and cracked the wall for a length of over 20m. This will require substantial repairs in the future.

Crash Deck 2 was of the same basic design as Deck 1 with a line of ground beams at the front and rear sides of the structure and transverse ground beams linking the paired uprights.

The line of the ground beams at the back of the structure coincided with the line of the road edging and cable channel which had to be completely removed to facilitate construction. Much of the surface of the lateral drain was also removed. The Cable channel was cut by consaw into metre long sections which were laid out in the order they were removed in the yard behind the northern dwelling of the lower light station. The stone removed from the road edging and lateral drain was stockpiled on the outer side of the roadway immediately above crash deck 2. The stones in the road edging here were much larger than elsewhere as the great depth of infill in the steep gully beneath the roadway allowed for the use of larger stones.

The foundations for much of the line of the inner beam and the inner ends of the transverse beams had to be cut through rock. In a few places rock had also to be broken out at a higher level to facilitate the construction of the substructure for the roof.

Crash Deck 3 (figs. 11 & 12)

The redesigned foundations of Deck 3 would have interfered with the line of an important shore and subsurface drain on the roadway. To determine whether it was possible to install the foundations either over or under the drain a test trench was first opened to determine the level and line of the drain. The results of the test trench were reported to the NMS and OPW and as it was not possible to install foundations without crossing the line of the drain the foundation design of the area of the crash deck around the drain and shore was altered so there would be no interference with the shore and drain. The capstones of the drain were also broken and one was missing so the OPW mason repaired them before the test trench was backfilled.

The rear beam in the redesigned crash deck was to be set roughly in the middle of the roadway and so did not interfere with the road edging etc. at the rear of the roadway. However the foundations for all the transverse beams would cut through it and the cable channel. In order to avoid damage to the cable channel it was cut into metre lengths by consaw before construction work began. The removed cable channel was placed on the inner side of the roadway further upslope and in the order in which the sections originally lay. As much as possible of the road edging and the surface of the lateral drain was retained in situ but sections had to be removed at the location of each of the transverse beams. The removed stone was stockpiled further upslope.

The works did not in any way interfere with the shore (which was protected with timber) and the subsurface drain.

Several sections of rock at a higher level had to be removed or cut back to facilitate the construction of the substructure for the roof.

Post Construction

After the construction of the ground beams was completed on each crash deck the trenches were backfilled and compacted. Following construction of the superstructure the roadway was again made good and in each area a drain was created along the inner side of the roadway to replace the removed parts of the lateral drain to ensure drainage was maintained (figs. 8, 10 & 12).

Conclusions

The ground beams, uprights and substructure of the roof of the three crash decks were completed in 2022. Construction required the removal of extensive areas of the road edging, cable channel and lateral drain surface. The elements removed were stockpiled so they can be reinstalled. The drain and shore under Crash Deck 3 were not interfered with in any way by the construction works.

The roofs of the crash decks and any ties or anchors required will presumably be added in 2023.

These construction works should not require archaeological monitoring, however the same restrictions and precautions undertaken in 2022 to avoid damage to the yellow sandstone flags and the cable channel by traffic etc. (figs 1-4) will need to be taken in 2023 and supervised to ensure they are adhered to.

The extensive areas of the road edging, cable channel and lateral drain surface removed will have to be replaced under supervision at some stage. Whether or not this will be possible next year when the roofs of the crash decks are being constructed is not clear. The parapet wall of the roadway for a length of some 20m in the area of Crash Deck 2 will

also have to be taken down and rebuilt at some stage and the side of the northern gateway into the lower lighthouse station will also need to be made good.



Fig1. Protection of the area of the entrance into lower lighthouse station.



Fig. 2. Ground raised after removal of bund walls, retaining original foundations of 1820s store.



Fig. 3. Protection of Yorkshire paving slabs in front of lighthouse and dwellings.



Fig. 4. Protection of cable channel outside north entrance to lower lighthouse station.



Fig. 5. Crash Deck 1. Slot cut through 'pond' wall.



Fig.6. Cras Deck 1, repairing hole in parapet wall.



Fig.7. Crash Deck 1, rock removed to allow rood substructure to be erected.



Fig. 8. Crash Deck 1 after completion.



Fig. 9. Crash Deck 2, roadway made good after completion of construction of ground beams.



Fig. 10. Crash Deck 2 after completion.



Fig. 11 Crash Deck 3 under construction. The rear beam being closer to the outer side of the wall allowed the retention in situ of sections of the road edging and lateral drain surface.



Fig. 12. Crash Deck 3 after completion or works